National Aeronautics and Space Administration
NASA Marshall Star: Aug. 18, 2005 : Vol. 45/No. 47

MARSHALL STAR

Serving the Marshall Space Flight Center Community **Aug. 18, 2005**

Production Rate Motor test success

A two-minute static firing of the Space Shuttle program's first Production Rate Motor was successfully tested Aug. 16 at ATK Thiokol Inc., an Alliant Techsystems company, in Promontory, Utah. The test satisfied 48 objectives, including the evaluation of new sensors, or Intelligent Pressure Transducers. Produced by Stellar Technology, Inc., of Amherst, N.Y., the transducers also were tested earlier this year on a modified motor at the Marshall Center.

NASA Engineering teams working ET foam loss

By Lynnette Madison from combined reports

NASA's Marshall Action Team is one of two engineering teams the Agency has formed to look into why a large piece of External Tank insulating foam broke off during Space Shuttle Discovery's liftoff on its Return to Flight mission July 26.

The engineering teams already have begun work to understand the causes behind the foam loss, which was identified in imagery taken during Discovery's launch.

The first team, known as the Marshall Action Team, was set up by

See *TEAM* on page 3

Marshall Technology Expo on Aug. 25

The Marshall Center is hosting a Technology Expo Thursday, Aug. 25, from 9 a.m. to 4 p.m. at the Activities Building 4316.

The event gives program managers, chief engineers and others the opportunity to go technology "shopping."

The Expo will showcase Marshall's in-house technology development capabilities and technologies developed for Marshall programs, including those resulting from funding sources such as the Center Director's Discretionary Fund, Independent Research and Development, Small Business Innovative Research, the Small Business Technology Transfer Program and Technology Development Investment Projects.

New materials combustion tester to help build better rocket engines

by Tracy McMahan

The Marshall Center has a new, one-of-a-kind materials tester — nicknamed The Hulk — that can help NASA build better rocket engines and prevent fires on Earth and in space.

"The Hulk, or the Heated Promoted Ignition/Combustion tester, provides an important and unique test capability within NASA," says Ralph Carruth, the manager of the Marshall Engineering Directorate Materials & Processes Laboratory that runs the tester. "It is a national asset and we've already had inquiries from industry and the Department of Defense regarding access to this test system."

What does the new test capability provide for NASA? When a rocket engine roars to life and propels a spacecraft into orbit, temperatures and pressures inside the engine soar. Materials that make up the engine are not only exposed to high-temperatures and pressures but also to a pure oxygen environment — a sure formula for explosions and fires. To prevent accidents, materials must be tested to ensure they can survive the extreme conditions inside propulsion systems.

"For the first time, The Hulk makes it possible to test materials in conditions they will actually experience," says Eddie Davis, the NASA engineer who manages Marshall's Materials Combustion Research Facility where the new tester is located. "Before we built The Hulk, the metals used in NASA engines were tested at room temperature. When these materials are used for rocket engines, they are heated to temperatures in the thousands of degrees. We can now

See *Hulk* on page 4

Photo by NASA/MSFC

Marshall Center and MESA sign agreement

Marshall Center Director David King, left, and Wesley Darbro, president of the Marshall Engineers and Scientists Association (MESA), signed a three-year collective bargaining agreement Aug. 2. The document represents the agreement between MESA and Marshall on policies and procedures affecting scientists and engineers at the Center. MESA is the collective bargaining representative of engineers and scientists employed by Marshall.

Scientific Information Center Demo on Aug. 24, at Marshall

Experienced, professional researchers will be in the Building 4203 lobby from 11 a.m.-1 p.m. Wednesday, Aug. 24 to demonstrate how Marshall employees can benefit from the extensive scientific and technical information at the Redstone Scientific Information Center (RSIC).

The information center, in Building 4484, was established in 1962 to provide assistance to researchers, engineers and scientists at the Marshall Center, Department of Defense agencies and contractors at Redstone Arsenal. Its functions are sponsored by NASA and the U.S. Army Research, Development and Engineering Command.

The information center contains 250,000 books, more than 1,400 journal subscriptions, 2.27 million documents, and information on 2.78 million patents.

Many of its information services are available via 24-hour desktop access. For more details on the information center's services and hours, call 876-5195 or go to https://rsic.amrdec.army.mil

Marshall contractors nominated for Chamber Small Business 'Hats Off' awards

Several NASA contractors are among 40 companies contending for Huntsville/Madison County Chamber of Commerce Small Business honors, called "Hats Off" awards.

The winners will be announced at 6 p.m., Tuesday, Aug. 23, at the 20th Annual Small Business of the Year Celebration at the Von Braun Center North Hall.

Marshall Center contractor Ron Gray of Gray Research in Huntsville is one of four individuals nominated for the "Executive of the Year" honor.

Local NASA contractor firms contending for honors in the categories of business services, manufacturing and construction, technology, and wholesale/retail/personal services include Gray Research; System Studies and Simulation, Inc. of Huntsville; Qualis Corporation of Huntsville; and Will Technology, Inc. of Huntsville.

The Arc of Madison County, Inc., under contract to provide courier services at Marshall, is competing for an honor in the non-profit category. The organization helps mentally retarded and developmentally delayed individuals, providing them opportunities to choose where and how they learn, live, work and play.

Companies vying for the awards range in size from one to 350 employees, said event chairman Mary Grace Evans.

The Chamber's Small Business Division provides assistance, information, networking opportunities and opportunities for growth for small businesses. This year's awards are sponsored by First Commercial Bank of Huntsville.

For more information, contact Jenni Jeffers at 535-2011 or jjeffers@hsvchamber.org

NASA, Alabama universities renew NSSTC partnership

Agreement adds first five-year option period extending partnership to 2010

Officials from the Marshall Center and the Alabama Space Science and Technology Alliance signed an agreement Aug. 9 to extend their National Space Science and Technology Center (NSSTC) partnership for another five years.

The agreement between NASA and the coalition of Alabama universities is the first of three available five-year options established in the original document, signed in 2000. The first five-year option expires in 2010.

The Huntsville-based NSSTC is a collaborative research and education initiative devoted to scientific disciplines vital to NASA's dual mission of space exploration and improved life on Earth. The facility celebrates its fifth year in operation in 2005.

The document signing was overseen by Dr. Ann Whitaker, interim director of the NSSTC, and Dr. Ron Greenwood, executive director of Alabama's Space Science and Technology Alliance. David Iosco, manager of the Institutional Support Office within the Marshall Center's Office of Procurement, signed the document on behalf of NASA.

"Over the past five years, the NSSTC has become a premier research organization, serving the Alabama academic community and our state," said Whitaker, who also is director of the Marshall Center's Science and Technology Directorate. "Perhaps most importantly, this partnership is an essential component of NASA's mission to conduct the work of the Vision for Space Exploration."

"The NSSTC is playing a key role in expanding science among Alabama's research universities, and it has been an important tool in promoting collaborative research efforts with some of the world's best scientists," said Greenwood, who also is vice president of research at the University of Alabama in Huntsville.

Members of Alabama's Space Science and Technology Alliance include seven state research universities: the University of Alabama in Huntsville, Alabama A&M University in Normal, Auburn University in Auburn, Tuskegee University in Tuskegee, the University of Alabama at Tuscaloosa, the University of Alabama at Birmingham and the University of South Alabama in Mobile.

For more information about the NSSTC, visit http://www.nsstc.nasa.gov

Photo by NASA/MSFC

Dr. Ann Whitaker, left, interim director of the NSSTC, and Dr. Ron Greenwood, executive director of Alabama's Space Science and Technology Alliance, at the signing of the contract extension.

TEAM

Continued from page 1

the Space Shuttle Program to look at the in-flight anomaly of the foam loss. The team is led by Dr. Raymond "Corky" Clinton of the Exploration Science and Technology Division based at the Marshall Center. The team includes some of the Agency's top experts on the Space Shuttle External Tank, as well as contractors. Work is divided among five sub-teams.

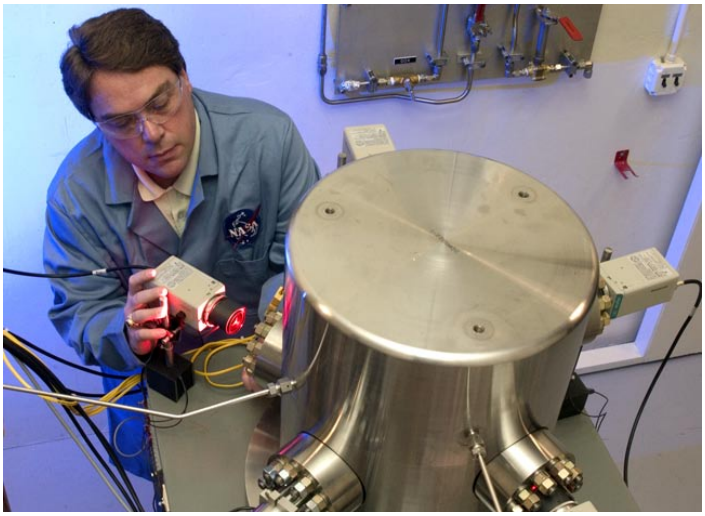
The Marshall Action Team has begun working through a fault-tree analysis, a methodical look at nearly all possible causes of an incident. Once that work is complete, the group is expected to produce a plan to address the cause of the foam loss.

The second team, known as the External Tank Tiger Team, was chartered by the Space Operations Mission Directorate at NASA Headquarters in Washington to perform an independent engineering assessment of work to resolve the foam loss issue. The Tiger Team will participate in and review work done by the Marshall Action Team. As necessary, the team will make recommendations to NASA Space Operations and Safety management.

In NASA parlance, a "tiger team" is a panel set up to work on a specific issue or task. In this case, the Tiger Team brings together engineering expertise from around the Agency. Its leader is Dr. Richard Gilbrech, deputy director of the NASA Engineering and Safety Center (NESC), based at Langley Research Center in Langley, Va. The Tiger Team's work does not specifically fall under NESC activities, but Gilbrech's experience at NESC is expected to help the Tiger Team in its oversight role.

Members of the External Tank Tiger Team are David Hamilton, NESC Chief Engineer at Johnson Space Center in Houston; astronaut Dr. Donald Pettit of the Johnson Center; Dr. Michael P. Nemeth of Langley Research Center; Timmy Wilson, NESC Chief Engineer at Kennedy Space Center in Cape Canaveral, Fla.; Dr. Charles Schafer, deputy manager of the Propulsion Research Center at Marshall; and Harry Dean of Marshall, Close-Call Investigation Ex-Officio Member.

The writer, an ASRI employee, supports the Public and Employee Communications Office.



NASA Photo by Emmett Given

Stephen Herald, lead test engineer with Integrated Concepts and Research Corporation, aligns one of six cameras arranged in a helical pattern around The Hulk's test chamber. Testers with older designs have only one port, which limits observations of the test sample as it burns. The six ports make it possible to observe the entire length of samples up to 12 inches (305 millimeters) long and thus allows researchers to acquire more comprehensive data on each sample.

Hulk

Continued from page 1

simulate these conditions."

The Hulk makes the Marshall Center the only place in the world that can heat materials up to 2,000 degrees Fahrenheit, while exposing them to gaseous oxygen atmospheres at high pressures up to 10,000 pounds per square inch — more than 600 times the pressure we feel at sea level on Earth.

"Before, the only way to test engine materials at these temperatures and pressures was with a costly, full-scale engine firing or a subtest of engine components," explains Davis. "Now we can test the materials before they are selected for use in a rocket engine. This lowers testing cost, gives designers better data for selecting engine materials, and improves the safety and success of component and full-scale engine tests."

Researchers using this facility are continuing Marshall's pioneering research on materials and oxygen systems that began with the development of rockets like the Saturn V, which first carried men to the Moon more than 35 years ago.

Right now, Marshall engineers are testing metals — called super alloys — often used in engine design. Metals tested include nickel-based super alloys such as Inconel™718, Haynes™214, and Monel™400, as well as several different 300-series stainless steels. Until now, there was no place to test metals under the combination of elevated temperatures and pressures that can change the combustion characteristics of even the strongest, most stable metals.

"We already have surprising results," says Stephen Herald, senior test engineer with Integrated Concepts and Research Corporation. "Materials that didn't burn in high pressure oxygen at room temperature are igniting at elevated temperatures and much lower pressures inside The Hulk."

Marshall Center combustion research and testing facilities

The Engineering Directorate's Materials and Processes Laboratory conducts these tests at the Materials Combustion Research Facility:

- **Flammability testing** measures a material's potential to burn and propagate a fire.
- **Oxygen index testing** identifies the precise oxygen concentration at which a material will support combustion.
- **Autogenous ignition temperature testing** shows when a material will spontaneously ignite without a spark or open flame.
- **Promoted ignition/combustion testing** exposes metals and other burn-resistant materials to high-pressure oxygen atmospheres and high temperatures to determine their flammability.
- **Ambient liquid oxygen mechanical impact testing** identifies the tendency of a material to react or ignite in liquid oxygen using mechanical impact as the ignition source.
- **High-pressure liquid oxygen and gaseous oxygen mechanical impact testing** determines the impact sensitivity of materials when exposed to pressurized oxygen environments under extreme pressures and temperatures.
- **Wire insulation flammability testing** reveals the combustion characteristics of wire insulations while the wire is carrying current.
- **Arc tracking testing** determines the propensity of wire insulation materials to flashover and propagate a sustained arc, which could ignite other materials.
- **Toxicity testing** determines if materials produce dangerous fumes or potentially toxic trace gas contaminants.
- **Thermal vacuum stability** testing ensures vacuum exposure outside a spacecraft does not cause materials to produce outgassed products that could harm sensitive optical devices or thermal control surfaces.

The following test will be available later this year:

- **Gaseous pneumatic impact testing** determines the ignition sensitivity of materials and components exposed to adiabatic compression heating (rapid pressurization without the loss of heat).

How can this test improve NASA's future rocket engines? Engines for the Crew Exploration Vehicle and other craft needed for the Vision for Space Exploration will be made of the best materials for safely transporting humans throughout the universe.

To find out how these tests and others at Marshall's Materials Combustion Research Facility can benefit your project, contact Jimmy Perkins (james.h.perkins@nasa.gov, 256-544-2634) or Eddie Davis (eddie.davis@nasa.gov 256-544-2490).

The writer, a technology historian for Qualis Corp., supports the Marshall Engineering Directorate Materials and Processes Laboratory.

Engineering Directorate honors team at awards ceremony

By Lori Johnston Meggs

More than 370 Marshall Center team members were honored recently at the annual Engineering Directorate awards celebration for their outstanding contributions to NASA's mission goals.

Nearly 700 people attended the event at the Redstone Civilian Recreation Area on the banks of the Tennessee River. The directorate rolled out its new logo during the festivities. Employees had previously submitted designs for a contest, and the winning logo was a combination of several entries.

Sam Digesu

The top award, the Engineering Directorate Director's Award, was presented to three employees — Sam Digesu, William Kauffman and Jeffrey West. The award honors team members who have shown extraordinary leadership within the directorate.

NASA Values Awards were given to 21 individuals nominated by their peers and selected by the directorate's managers for individual dedication to all NASA values. Eight individuals were chosen by their customers to receive Customer Focus Awards, given to employees who exemplified "star" performance during the year.

Group Achievement Awards were presented to the Space Shuttle Main Engine Nozzle Ice Debris Impact Testing Team, Node 2 Hardware/Software Team, External Tank (ET) Excitation Power Box (EPB) Team, Nozzle Induced Flow Test Team, External Tank (ET) Bipod Heater Design Team, External Tank (ET) Thermal Protection Systems (TPS) Team, Solid Rocket Booster - Booster Separation Motor ATK Transition Team, Reinforced Carbon-Carbon On Orbit Crack Repair Team, SRB Bolt Catcher Team, and Return-to-Flight External Tank LOX Feedline Ice Liberation Test Team.

Jeffrey West

Photos by NASA/MSFC

Teresa Vanhooser, acting director of Marshall's Engineering Directorate, right, presents William Kauffman with the Engineering Directorate Director's Award for extraordinary leadership within the organization.

In addition to lunch, guests also participated in team building activities including a dunking booth with managers as the "target," radar baseball throw, basketball shootout, putting green and softball toss. The Mission Operations Laboratory team won the softball tournament and the Instrument and Payload Systems Department team won the volleyball competition. The overall event trophy went to Materials and Processes Laboratory employees for their participation in team activities. The afternoon was topped off with snow cones for everyone to help in the "cooling process."

For a complete overview of the 2005 Engineering Directorate awards celebration day, go to: http://ed.msfc.nasa.gov/edinside/highlights/awards/edawardsday2005/index.html

The writer, an ASRI employee, supports the Public and Employee Communications Office.

Obituaries

Heinz Kampmeier, 90, of Huntsville, died Aug. 7. Kampmeier retired from Marshall as an industrial engineer in 1973. He was a member of the von Braun rocket team, and worked on the Redstone, Jupiter, Pershing, Saturn I, Saturn IB, Saturn V and Skylab I projects.

He is survived by his wife, Ursula; his daughter, Ellen Kampmeier Mixon of Madison; his son, Juergen Kampmeier of Lakewood, N.J.; and seven grandchildren, and three great-grandchildren.

Clarence R. Fulmer, 77, of Huntsville, died Aug. 5. He retired from Marshall as a mathematician in 1995. He was also a veteran.

He is survived by his wife, Frances Fulmer; two daughters, Susan Hopkin and Lynn Cawthon; and one son, Harold "Hal" Fulmer.

Theo T. Starkey, 84, of Huntsville, died Aug. 6. He retired from Marshall as a supervisory aerospace technician in 1976. He was also a World War II Navy veteran.

He is survived by his daughter, Margaret.

Lynn Kachelhofer of Huntsville died Aug. 10. She was an employee of the Marshall Child Development Center from 1990-2004.

Survivors include her husband, Ed; one son, Marvin; one daughter, Ginger; one brother, William Hardy; and one sister, Nancy Icker.

Marshall Team marks Huntsville Bicentennial

Marshall Center team members, participating in the Huntsville Bicentennial Parade Aug. 6, gather in front of the Marshall float featuring a mobile Shuttle exhibit. Safety and Mission Assurance Directorate Director Jan Davis was a featured participant in the parade. The event, celebrating Huntsville's 200th birthday, was a centerwide activity supported by the Government & Community Relations Office in the Office of Strategic Communications.

Around Marshall

Brick sale will benefit Saturn V refurbishment

Marshall team members who buy a brick today will help preserve a symbol of one of the greatest accomplishments in history — the Saturn V launch vehicle, which took humans to the Moon.

Saturn Team Bricks, available for purchase from the U.S. Space & Rocket Center Foundation, are $100 each. The purchaser's name will be engraved on the brick and each brick will be placed in the Apollo Walk leading to the new Saturn V Park at the Space & Rocket Center.

Purchasing bricks is a way to honor the people of NASA and the contractors who played a vital role in lunar exploration. The Foundation's goal is to sell 5,000 bricks, with all proceeds to go toward refurbishment of the Saturn V and housing it in an environmentally controlled enclosure.

To purchase a brick visit: http://www.spacecamp.com/saturnv/ and click on "Buy a Brick," or mail checks to the U.S. Space & Rocket Center Foundation, Saturn V Restoration Project, One Tranquility Base, Huntsville, AL 35805. Write "Saturn Team Brick" on the check. Bricks also may be purchased at a brick booth during the Aug. 27 Saturn and Apollo celebration at the Space & Rocket Center.

The Saturn V rocket on display at the Space & Rocket Center is one of only three of the NASA launch vehicles still in existence. A fundraising effort for complete restoration and preservation of the historic Saturn V got under way earlier this year. The goal is to raise $5 million.

Shuttle Buddies to meet Monday

The Shuttle Buddies will meet at 9 a.m. Monday, Aug. 22, at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Vision exhibit featured at Michoud open house

More than 6,000 people attended the Lockheed Martin Space Systems, Michoud Operations open house Aug. 6, at NASA's Michoud Assembly Facility, near New Orleans, La. NASA's Vision exhibit, which relates the Marshall Center's role in the Vision for Space Exploration, displayed Space Shuttle tile, External Tank insulating foam and a large bolt that connects the Shuttle's Solid Rocket Boosters to the External Tank for the visitors. Michoud is the site of the design, manufacture and assembly of the External Tanks for NASA.

American Red Cross Blood Drive set Friday

The American Red Cross Blood Drive will be 8 a.m.-1:30 p.m. Friday, Aug. 19, in Center Activities Building 4316. For more information, call Rick Wallace at 544-8885 or see "Inside Marshall."

MARS Coed Volleyball Club pre-season meeting set Thursday

A pre-season organizational meeting for the MARS Coed Volleyball Club will be at noon Thursday, Aug. 18, in the east-wing meeting room at the Marshall Wellness Center in Bldg. 4315. The season runs from early September until mid-November. Marshall employees, retirees, contractors and family members are welcome to join the club. For more information, call Dennis Gallagher at 961-7687.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue is 4:30 p.m. Thursday.

Miscellaneous

Lazy boy reclining sofa and chair, blue, $750. 721-0709

Pennsylvania House video cabinet, Cherry, holds up to 30" TV, VCR/DVD, $750. 931-427-2059

Mossberg 835 pump, choke tubes, RT-Camo, slug barrel & scope, fiber optic sites, $500. 593-7207

LCD monitor/TV, includes desktop stand, speakers, internal TV tuner, $800. 603-6306

Playstation 2, controllers, DVD remote, S-video cable, memory cards, 10 games, Ethernet adapter, $300. 256-479-4345

Mini-bike w/2-stroke 43cc engine, electric start, automatic transmission, $250. 881-0755

Children's battery-powered Barbie Jeep, $40. 721-0883

Ping golf clubs, Karsten II, Black Dot, 3-9, $150. 539-7857

Statton Hepplewhite Hunt board, $900 firm. 882-1097

AKC yellow Lab male puppies, 12 weeks old, 2nd shots, $100. 350-2921

Lexmark X4270 All-in-One, (color fax, copy, scan, print), compatible w/Windows XP, 2000, & ME, $100. 541-1788

Wooden pedestal table, approx. 48" diameter, $175; bedside potty chair, $50. 883-9509

Montegi race rims, black, new, $250. 256-457-3670

Whirlpool refrigerator, side-by-side, 25 cu. ft., almond, water/ice in door, $300. 859-6636

Antique mahogany china hutch with drop front, $400; car top carrier, hard sided, $20. 859-6636

Professional heavy-duty Fooze ball table/game, $250; Registered Quarter horse mare, foundation bloodlines, $3,000. 653-8311

Children's beginner guitar, small size w/case, $35; Plastic band clarinet, needs cleaning, $75. 527-2984

Six tickets to Alabama vs. Middle Tennessee football game. 895-9520/Philip

Hide-away-bed couch, 1970s vintage, sturdy, disassembled for moving, $75. 828-9099

Nat King Cole "Favorite Hits" CD, new, $5. 461-8369

High Country Supreme bow, all accessories included, $200. 683-8248

Dinette set w/lighted china cabinet, solid Cherry, $1,750. 771-1314

Ovation 12-string guitar w/hard shell case, Pinnacle series, $550. 256-325-6885 after 6 p.m.

Power jeep, $75; Power 4-wheeler, $75; queen mattress & box springs, $75. 655-2939

Emerson video cassette player; 2-door sewing stand; blue floral slipper bedroom chair, $20 each. 922-9311

Antique maple/steel school desk, ink well, folding seat, bolts to the floor, 450. 883-2795

Girl's 24" Murray 10-speed bike, $40. 830-6584

Corner computer desk, $20. 651-9300

Violin, $85; chest-of-drawers, $60; bunk beds, $60; trampoline, $70. 722-9989

Queen size solid brass headboard, footboard, side rails, needs polishing, $75. 882-9937

Old Towne Penobscot 16 canoe includes paddles, $695. 864-8183

Whirlpool window a/c, 11,600 BTU, used one summer, $150. 259-5140

Fender strat with Fender amp and gig bag, $300. 498-3452

Self-cleaning Hotpoint built-in oven, 24-1/4"Wx24"Dx 27-3/4"H, $50. 603-0136

Multi-exercise weight training bench, $70. 881-1249

SofTub hot-tub, 6' diameter, self sustaining, inside/ outdoor use, all accessories, $2,000. 509-3392

Vehicles

1973 VW Square-back sedan, orange/black inside, new tires, injectors, etc, w/spare motor, $3,800. 722-0777

1989 Coachmen Classic travel trailer, 32', air & central heat, hitch, sway & level equipment, $3,500. 683-3745

BMW 740IL, hunter green, tan leather, 106K miles, new tires. 682-0888

2000 Ford Focus, 2-door, 4-cyl., 5-speed manual, 110K miles, $3,950 firm. 256-572-1867

1999 Yamaha XT225, $1,500; 2000 Honda XR100, $900. 233-5620 after 5 p.m.

1997 Ford Galaxy 500, 4-door, no dents, $1,500. 882-0461

1996 Acura RL, 4-door sedan, hunter green, tan leather, 87K miles, $8,800. 883-9741

1978 Silver Anniversary Corvette, red interior, appraised mint, 41.2K miles, $17,500. 852-5628

2002 Ford F250 Super-duty crew-cab, Lariat, 7.3 diesel, 4x4, 136.5K miles, white, $20,000. 256-497-3518

2000 S-10, ZR2, 4x4, extended cab, automatic, 94K miles, red, payoff $9,866. 593-7207

1998 Lincoln Continental, dealer maintained, white w/tan interior, 140K miles, $5,000. 881-6847

1986 Toyota Cressida, in running condition, needs air conditioner compressor, $695. 883-2468 after 6 p.m.

1997 Sea-Doo SPX, 110HP, VTS works, cover, trailer, 2-seater, $2,200. 837-0541

2001 Ford Focus SE, gold, 90K miles, $5,000. 865-567-8862

2003 Polaris Sportsman 700, automatic transmission, 240K miles, includes helmet, $6,200. 694-1217

1997 Nissan pickup, extended cab, 4-wheel drive, 4-cylinder, a/c, 111K miles, $5,500. 489-3120

2005 Acura TSX, AT Sport-shift, silver, black leather, 9.5K miles, $25,500. 256-206-2549

2000 Honda Civic, 4-door, PDL, remote entry, a/c, AM/FM/ CD, 94K miles, 32mpg, $5,900. 895-0577

1985 Honda XL600R motorcycle, dual sport, street legal, new tires, $975. 683-9364

1999 Lexus ES300, V6, leather, moon roof, 5-disc CD, 72K miles, rebuilt title, $9.900. 895-6640

1995 Cadillac Concours Deville, leather, black, tinted windows, rims, $3,200. 520-2802/Ron

2004 Dodge Dakota Quadcab, 28K highway miles, blue, cloth, bedliner, $20,000. 509-3392

Tractor, MF-255, 2050 hours, spin-out rears, 4-remote hydraulics, 20 hours on clutch, $6,900. 880-2290

Free

Two older cats, spayed/declawed, moving, can't take them with us. 325-6080

Kittens. 828-3181 leave message

Wanted

To buy: small car that gets 35-50 mpg of gas or diesel, $500-$1,000 price range. 256-593-7207

Bumper-pull tandem axle trailer, approx. 20', suitable for compact utility tractor. 256-572-8090

Used Yamaha portable 88-key keyboard; piano weighted keys. 880-2366

Laptop bag for student, 15.4" computer. 883-2757

Used Reader-board Marquee sign w/letters if possible. 431-0397

AT&T Nokia cell phone, Model 6800, in good working condition. 533-5942

Older model Harley Davidson, running or not, for restoration project. 251-212-1485

Pair or 4-pack of tickets to any Tennessee Titans home game. 931-703-5385

Any Winnie the Pooh items for baby nursery and stroller set, changing table, etc. 759-5904

Found

Reading glasses and one earring. Call 544-3623 to claim/identify

Correction

The titles for three Marshall employees were incorrect in a photo caption about a historic test engine — the Experimental Engine (XE) Double Prime — published in the Aug. 11 issue of the Marshall Star. Rick Ballard is team lead for the Nuclear and Advanced Propulsion Systems Engineering Branch; Harold Gerrish is chief engineer of the Propulsion Research Center; and Wayne Bordelon is manager of Nuclear Thermal Propulsion in Marshall's Nuclear Systems Office. The Star regrets the error.

Recent NASA appointments announced by Administrator Griffin

NASA Administrator Michael Griffin recently announced a number of organizational changes. **William H. Gerstenmaier** has been appointed as associate administrator for Space Operations at NASA Headquarters in Washington; **Mary Cleave** will serve as associate administrator for the Science Mission Directorate; **Colleen Hartman** will be the deputy associate administrator for the Science Mission Directorate; **Lisa J. Porter** joins NASA as senior advisor for aeronautics in the Office of the Administrator; **Michael P. Ralsky** joins the Agency as senior advisor to the NASA deputy administrator; and **Brian Chase** will serve as assistant administrator for Legislative Affairs.

William H. Gerstenmaier

Gerstenmaier will direct NASA's human exploration of space, and also have programmatic oversight for International Space Station, Space Shuttle, Space Communications and Space Launch Vehicles.

Since June 2002, Gerstenmaier has been program manager of the International Space Station Office at NASA's Johnson Space Center in Houston. He began his NASA career in 1977 at the Glenn Research Center in Cleveland, performing aeronautical research and was involved with wind tunnel tests on the Space Shuttle. Other assignments have included Space Shuttle Propulsion Flight Controller; manager of the Orbital Maneuvering Vehicle project; lead for Space Shuttle/Space Station Freedom Assembly Operations Office; operations lead in Moscow for the first phase of the Shuttle-Mir program; Space Shuttle Program integration manager; and deputy manager of the International Space Station program.

Mary Cleave

Cleave's most recent NASA assignment was director of NASA's Earth-Sun System Division in the Science Mission Directorate. She began her NASA career at the Johnson Space Center when she was selected as an astronaut in May 1980. She flew two Space Shuttle missions, STS-61B in November 1985 and STS-30 in May 1989. She logged more than 262 hours in space. She joined NASA's Goddard Space Flight Center in 1991 to work in the Laboratory for Hydrospheric Processes. In March 2000, Cleave joined NASA's Office of Earth Science as the deputy associate administrator for Earth Science Advanced Planning.

Colleen Hartman

Hartman, while serving as a special assistant to the NASA Administrator, served as Agency liaison with the assistant to the President for science and technology within the Office of Science and Technology Policy, Executive Office of the President. She has been a senior program executive and scientist for more than 24 years.

Lisa J. Porter

Porter was senior scientist in the Advanced Technology Office of the Defense Advanced Research Projects Agency (DARPA) in Arlington, Va., where she was program manager for projects that focused on applications of advanced computational fluid dynamics, including the design of quieter and more efficient helicopter rotor blades and research on friction drag reduction for Naval platforms.

Michael P. Ralsky

Ralsky joins NASA after serving as an associate director for the White House Office of Presidential Personnel, where he was responsible for identifying, evaluating, recruiting and recommending candidates for presidential appointment to the Cabinet and to senior executive positions at federal agencies.

Brian Chase

Chase most recently served as vice president of Washington Operations for the Space Foundation, a non-profit organization that advances the exploration, development and use of space for civil, commercial and national security endeavors.

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